IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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For: PROMOTIONS ON VIEWING DEVICES

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APPEAL BRIEF

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Sir:

This Appeal Brief is submitted pursuant to the Notice of Appeal received in the U.S. Patent and Trademark Office on May 10, 2007, and in support of the appeal from the final rejections set forth in the Office Action mailed on July 6, 2007. The fee for filing a brief in support of an appeal is enclosed. A Petition for Extension of Time and the appropriate fee are being filed concurrently.

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I.   REAL PARTY IN INTEREST

The real party in interest is Navic Systems, Inc. Navic Systems, Inc. is the Assignee of the entire right, title and interest in the subject application, by virtue of an Assignment recorded on January 14, 2002 at Reel 012474 Frames 0388-0391.

II.   RELATED APPEALS AND INTERFERENCES

Appellant, the undersigned Attorney and Assignee are not aware of any related appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III.   STATUS OF CLAIMS

Claims 1-30, 32-63, and 65-71 were finally rejected, and a copy appears in the Appendix of this Brief. Claims 1, 8, 10, 21, 23-26, 29, 32-35, 54, 56-63 and 65-67 were amended in Amendments filed on August 18, 2005 and November 10, 2006. Claims 68-71 were added in the Amendment filed on November 10, 2006. Claims 2-7, 9, 11-20, 22, 27, 28, 30, 36-53, and 55 appear as originally filed. Claims 31 and 64 were canceled.

IV.   STATUS OF AMENDMENTS

No Amendments have been filed subsequent to the Final Rejection.

V.   SUMMARY OF CLAIMED SUBJECT MATTER

A. Claim 1

Claim 1 relates to a system that displays promotions on a viewing device. The system comprises a display which is viewable by a viewer using the viewing device and a network device coupled to the viewing device. The network device is configured to receive a promotion and a transmission schedule. The network device receives the transmission schedule as a message. The message is individually addressed to the network device. The transmission schedule contains control data. The control data specifies a condition for activating the promotion on the display. The network device activates the promotion in response to the occurrence of a condition. The display, in turn, displays in the activated promotion when the condition occurs.

Support for claim 1 may be found on page 5, lines 3-15; page 7, line 8- page 8, line 10; and FIGS. 1 and 2 of Appellant's Specification as originally filed.

B. Claim 35

Claim 35 relates to a method for displaying targeted promotions on a viewing device, such as a set top box. The viewing device receives a promotion and a transmission schedule. The viewing device receives the transmission schedule as a message which is individually addressed to the viewing device. The transmission schedule contains control data. The control data specifies a condition for activating the promotion for display on the viewing device. The viewing device then displays the promotion on the viewing device in response to encountering the condition.

Support for claim 35 may be found on page 7, line 8- page 8, line 10; and FIG. 2 of Appellant's Specification as originally filed.

VI.   GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-30, 33-63, and 65-67 were rejected under 35 U.S.C. § 103 with the Examiner finding the claims to be obvious over U.S. Patent No. 6,177, 931 to Alexander et al. (hereinafter "Alexander") in view of U.S. Pub No. 2002/0010928 to Sahota ("Sahota") and U.S. Patent No. 6,615,039 to Eldering ("Eldering").

VII.   ARGUMENT

A. The § 103 rejection of claims 1-30, 33-63, and 65-67

Claims 1-30, 33-63, and 65-67 were rejected in under 35 U.S.C. § 103 with the Examiner finally asserting them to be obvious Alexander in view of Sahota and in further view of Eldering.

1. Example

As a context for the arguments to be presented below, consider the typical implementation of Appellant's claimed device and method. In practice, Appellant's invention is employed in a network such as a cable or satellite television network. Where promotional content needs to be sent from a single source to many destinations, it is not uncommon, for

example, for there to be a network of 10,000 "set top box" network devices receiving a promotional message, such as an advertisement ("a promotion"). Using a first technique, each network device receives the promotion as a message. The message is <u>individually addressed to each of the network devices</u>. Because the message is addressed to each of the 10,000 network devices on an individual basis, this technique requires sending 10,000 messages, even if all of the messages are all identical. In other words, in order for each network device in such a network to receive an individually addressed message, 10,000 messages would have to be sent.

Using a second technique, a group of network devices receive a message which is addressed to the <u>entire group,</u> rather than a message which is addressed to a single network device. In computer networking, the process of sending a single packet of information to a group of destinations in one operation is termed "multicasting." In multicasting, a message is addressed to a group as a single multicast address. *See e.g.*, prior art of record Eldering, column 5, lines 58-60, incorporating by reference Request for Comments (RFC) 966[1] Host Groups: A Multicast Extension to the Internet Protocol, S.E. Deering and D.R. Cheriton, December 1985, pages 1-3, ("Multicast is the transmission of a datagram packet to a set of zero or more destination hosts in a network or internetwork, with a <u>single address specifying the set of destination hosts</u>," emphasis added). A multicast address for a group of network devices is contrasted with an address for a single individual network device.

In contrast to the first technique, because the message is addressed to a group of network devices on a group basis, not on an individual basis, this second technique requires sending only 1 message addressed to the group.

Sending 10,000 messages is <u>different</u> than sending only 1 message, and receiving a message which is individually addressed to a network device is <u>not</u> the same as receiving a message addressed to a group of network devices. This is one key differentiator between Appellant's claimed invention and the cited prior art.

2. The Eldering patent

Eldering describes using a single multicast address to address ads and/or programs to a group of subscribers for both sending ads and programs together (in-band transmission) and for

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[1] The Introduction to RFC 966 (pages 1-3) is included in the Evidence Appendix of this Brief for the Board's convenience.

sending ads and programs separately (out-of-band transmission). *See e.g.,* Eldering, column 11, line 66 – column 12, line 4 (advertisements are directed according to the advertisement multicast addresses); column 12, lines 7-11 (presentation streams are directly transmitted to a group of subscribers); column 12, lines 11-14 (multicast a presentation stream to subscribers in a multicast subgroup); and column 12, lines 33-39 (programming is transmitted on one multicast channel to a first group of subscribers, and one or more advertisements are transmitted on a second multicast channel to a second group of subscribers).

3. The Alexander patent

Alexander describes a technique for determining what advertisements to display based on viewer profile information. See Alexander, column 32, lines 22-23. The profile information is merely viewer data that is fed into an Electronic Program Guide (EPG) or a profile program which has the built-in intelligence to examine the profile data and select which advertisements to display. See Alexander, column 32, lines 24-34. Because the decision as to what advertisement to display is made by the EPG and/or the profile program, there is no use for further including control data in the viewer profile data fed to the EPG and/or profile program. See Alexander, column 32, lines 24-27.

For example, Alexander notes that geographic information stored in the profile (e.g., a zip code) may be used to inform the EPG of a viewer's geographical location. The EPG may then select an overlay message based on the geographical information. The selected overlay message is displayed to the viewer when the advertisement is displayed. See Alexander, column 32, lines 39-54. Beside the geographical information already stored in the profile, no additional control data is required to activate the display of selected overlay message.

4. The Sahota application.

Sahota discloses a technique using Advanced Television Enhancement Form (ATVEF) triggers inserted into TV commercials to cause enhanced content (e.g., web pages) to be integrated with content (TV commercials) to form interactive content automatically. See Sahota, FIG. 2 and paragraph 0053. Because the inserted ATVEF triggers are themselves the cause for integrating, there is no need for the ATVEF triggers to specify a further cause (condition) when the enhanced content should or should not be integrated with the content. *See e.g.,* Sahota,

paragraphs 0035-0036 (ATVEF triggers are mechanisms to alert set-top boxes of incoming content enhancements, and include information about the enhancements, such as a standard Universal Resource Locator (URL) location for enhanced content), paragraph 0048 (ATVEF trigger causes multiplexer/encoder to integrate advertising content with TV commercial content), paragraph 0058 (ATVEF trigger sent by broadcasting server to multiplexer/encoder causes the multiplexer/encoder to integrate interactive content in realtime)

5. Claims 1-30, 33-63, and 65-67 are not obvious in view Alexander, Sahota, and Eldering.

To establish a prima facie case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the references must teach or suggest all of the claim limitations. *See* MPEP § 2142.

Also during patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." *See* In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).

Appellant respectfully submits that the Alexander, Sahota, and Eldering combination does not teach, suggest, or otherwise make obvious a transmission schedule received as a message which is individually addressed to a network device, which is a feature clearly recited in all of Appellant's claims 1-30, 33-63, and 65-67.

Eldering's Multicast Messages are Not Individually Addressed.

One must look to Appellant's Specification to determine the meaning of the claims. According to the Specification, page 7 lines 13-15, transmission schedules are customized for each network device specifying when and how each network device is to receive promotions. The transmission schedules (scheduling information) are transmitted to each network device through a messaging protocol for unicast transmission (one-to-one). Specification, page 10 line 28 – page 11 line 5. The Board should note that the promotions (or content) themselves, on the other hand, are not transmitted through the same messaging protocol as the transmission

schedules. *Id.* Instead, the promotions are transmitted through a messaging protocol capable of efficiently transmitting multicast (one-to-many) and broadcast (one-to-all) media. *Id.* However, the claim language at issue here is the element that has to do with transmission schedules, not the promotions.

By reference to <u>a schedule message which is individually addressed to a network device</u> in the claims, Appellant is thus referring to a message that is intended to be received by a particular network device, and not a message intended to only be received by a group of network devices. In this way, Appellant's claimed invention effectively targets promotions to specific individual network devices on a individual basis. Specification, page 2 lines 22-26.

The Examiner admits that "Alexander and Sahota do not further teach the step of 'the transmission schedule is received as a message which is individually addressed to the network device.'" The Examiner, however, seems to believe that Eldering teaches, "an exact same technique in using <u>multicast protocol</u> in sending messages with a schedule to individuals <u>based on individual address of each network device</u> with its own ID," (emphasis added) citing Eldering's FIGS. 1, 2, 10, and columns 11, line 54 – column 13, line 18. Appellant respectfully disagrees.

Eldering's FIG. 1 merely illustrates that reducing the number of subscribers in a receiving group, from all to some to one, increases the amount of available bandwidth per subscriber. As such, Eldering merely describes that more bandwidth for content is available per subscriber by addressing the content to fewer subscribers.

Appellant, on the other hand, claims a transmission schedule that is received as a message individually addressed to a network device. Appellant also claims that the individually addressed transmission schedule contains control data specifying a condition for activating a promotion. In this way, transmission schedules are individually addressed so that each network device may receive, on an individual basis, the separate control data it needs for activating promotions (such as a date and time of day).

For example, a first network device receives a first transmission schedule and a first control data needed to activate a promotion. A second network device, however, in contrast with the first network device, does not receive the same first transmission schedule or the same first control data. Because each network device receives a transmission schedule that is addressed to itself and not other, the second network device instead receives a second transmission schedule

and a second control data. Two messages are received, even if the first and second transmission schedules and the first and second control data for activating a promotion are in fact the same.

Accordingly, Applicants respectfully submit that Eldering's addressing of smaller groups of subscribers to increase bandwidth per subscriber is not the same as a transmission schedule is received as a message which is individually addressed to a network device.

Now as for Eldering's FIG. 2 and the corresponding description, Eldering merely describes using a multicast address to form of a group of subscribers interested in receiving the same information (e.g., listening to the same radio station). Eldering, column 5 lines 6 – 26. Applicants respectfully submit Eldering's addressing a broadcast of information with a single multicast address so that every interested subscriber receives the same information is not the same as a transmission schedule is received as a message which is individually addressed to a network device.

Eldering's FIG. 10 merely illustrates a subscriber with an IP address of "Subscriber IP Address" receiving a program with a multicast address of "Program Multicast Address" and receiving an ad with a multicast address of "Ad Multicast Address." As such, Eldering's table in FIG. 10 merely "indicates which multicast subgroups should be formed" (Eldering: 11 lines 55 through 57) and is silent as to a subscriber receiving a transmission schedule (or any other form of non-content) with an address of "Subscriber IP Address." Accordingly, Eldering only describes receiving content addressed to a multicast group.

Eldering provides an example in column 11, lines 60 – column 12, lines 14 referring to FIG.10, which serves to further distinguish itself from Appellant's receiving a transmission schedule as a message which is individually addressed to a network device. Eldering's example system associates MPEG program IDs or node IDs with ad multicast addresses. To send advertisements out-of-band, "the advertisements are directed according to the advertisement multicast addresses." *Id.* (emphasis added). The advertisement multicast addresses are then used to match the program ID and to insert the advertisements into the programs locally. *Id.* To send advertisements in-band, "an Internet sender inserts ads destined for a subgroup multicast [in into program streams] and multicasts the new presentation stream to the subscribers in that multicast subgroup. *Id.* (emphasis added).

Appellant respectfully submits Eldering's receiving content addressed to a multicast group of subscribers is <u>not</u> the same as a transmission schedule received as a message which is individually addressed to a network device.

In column, line 54 – column, line 18, Eldering describes techniques for sending ads along with programs (in-band transmission) and sending ads separately from programs (out-of-band transmission). Eldering further describes that with these techniques, regardless of whether ads and programs are sent together or separately, the ads and/or programs are addressed to a group of subscribers using a single multicast address. *See e.g.,* Eldering, column 11, line 66 – column 12, line 4 (advertisements are directed according to the advertisement multicast addresses); column 12, lines 7-11 (presentation streams are directly transmitted to a group of subscribers); column 12, lines 11-14 (multicast a presentation stream to subscribers in a multicast subgroup); and column 12, lines 33-39 (programming is transmitted on one multicast channel to a first group of subscribers, and one or more advertisements are transmitted on a second multicast channel to a second group of subscribers).

The remainder of Eldering merely describes the type of content ("programming or entertainment program streams include digital video or audio streams that contain programming of interest to the subscriber"), the compression of the content (motion pictures expert group (MPEG) compression standard and REALAUDIO), and the substitution and insertion of the content ("generic/default advertisements are substituted with one or more targeted advertisements," and "one or more target advertisements are inserted in these ad breaks"). Eldering, column 12, line 55 – column 13 line 18).

Appellant respectfully submits Eldering's sending ads and programs, together or separately, addressed to a group of subscribers using a single multicast address is <u>not</u> the same as a transmission schedule is received as message which is individually addressed to a network device.

Sahota Does Not Teach Control Data Carried in a Schedule Message to Activate a Promotion.

Appellant further submits that the Alexander, Sahota, and Eldering combination does not teach, suggest, or otherwise make obvious <u>a transmission schedule message contains control data that specifies a condition for activating the promotion for display in the display,</u> which is a feature clearly recited in Appellant's claims 1-30, 33-63, and 65-67.

One must look to Appellant's Specification to determine the meaning of the claims. According to the Specification, page 8 lines 3-10, control data, contained in transmission schedule messages received by network devices, specify or otherwise inform the network devices in what messages conditions the network devices are to activate delivered promotions. The conditions specified by the control data may be, for example, event, time, or channel driven. *Id.* In this way, the network devices are informed of what event, what time or what channel causes the network device to activate the promotions. The condition specified by the control data may also be the reception of triggers embedded in broadcast streams such as Advanced Television Enhancement Forum (ATVEF), Vertical Blanking Interval (VBI), or in Moving Pictures Experts Group (MPEG) data streams. *Id.* Again, the control data informs the network devices that they are to activate the delivered promotions when the network devices receive, as specified, triggers embedded in broadcast streams.

By reference to control data that specifies a condition for activating a promotion in the claims, Appellant is thus referring to information that informs a network device as to what causes the network device to activate the promotion, and not the actual cause of the network device activating the promotion.

The Examiner admits that "Alexander does not clearly show the transmission schedule wherein the transmission schedule contains control data that specifies a condition for activating the promotion for display in a display." The Examiner, however, seems to believe that Sahota teaches the same feature, that the "control data" is the actual ATVEF and/or VBI encoding that provides the trigger at a schedule time, citing Sahota's FIGS. 1-4 and paragraphs [0044]-[0048]. Appellants respectfully disagrees.

Referring to Sahota's FIGS. 1A and 1B, the reference describes a device framework (270) responding to received "triggers," in real time, "to trigger automatically interactive Internet content with TV commercial content." Sahota, paragraph [0030]. Sahota's trigger merely causes the device framework (270) to respond. Unlike Appellant's claim 1, there is no notion that Sahota's trigger originates as a message containing control data specifying a condition in which the device framework (270) responds. Because the device framework (270) simply responds to the trigger, there is no need for the trigger itself to further inform the device framework (270) of a condition in which to respond.

Referring to Sahota's FIG. 2, the reference describes using Advanced Television Enhancement Form (ATVEF) triggers inserted into TV commercials to cause enhanced content (e.g., web pages) to be integrated with content (TV commercials) to form interactive content automatically. Sahota, paragraph [0053]. Because the inserted ATVEF triggers are themselves the cause for integrating, there is no need for the ATVEF triggers to further specify, in a message sent in advance, a cause (condition) when the enhanced content should or should not be integrated with the content. *See e.g.*, Sahota, paragraphs [0035-0036] (ATVEF triggers are mechanisms to alert set-top boxes of incoming content enhancements, and include information about the enhancements, such as a standard Universal Resource Locator (URL) location for enhanced content); paragraph [0048] (ATVEF trigger causes multiplexer/encoder to integrate advertising content with TV commercial content); and paragraph [0058] (ATVEF trigger sent by broadcasting server to multiplexer/encoder causes the multiplexer/encoder to integrate interactive content in realtime).

Referring to Sahota's FIG. 3, the reference describes an ATVEF trigger, inserted by a broadcasting server (260), causing content to be delivered to a multiplexer/encoder (215) to be integrated. Sahota, paragraph [0053]. Again, unlike Appellant's claim 1, there is no notion that Sahota's trigger is control data, sent as part of a schedule message in advance of the activation, and specifying a condition in which the multiplexer/encoder (215) is to integrate the delivered content. Because the broadcasting server (260) merely has to insert the ATVEF trigger to cause the multiplexer/encoder (215) to integrate content delivered to it, there is no need for the trigger itself to further inform the multiplexer/encoder (215) of a condition at which to later integrate.

Referring to Sahota's FIG.4, the reference describes a broadcasting server (260) responding to a multiplexer/encoder's (215) query of whether to integrate a video stream with interactive content by sending an ATVEF trigger to the multiplexer/encoder (215). Sahota, paragraph [0058]. Because whether the multiplexer/encoder (215) receives the ATVEF trigger or not dictates whether the multiplexer/encoder (215) integrates or not, there is no notion in Sahota of the ATVEF trigger itself providing information to the multiplexer/encoder (215) as to a condition to integrate.

In paragraphs [0044]-[0048], despite a broadcast server (260) storing scheduling information used to determine timing and scheduling for broadcasting integrated content, the broadcast server (260) only sends an ATVEF trigger to a multiplexer/encoder (215) to cause the

CLAIMS APPENDIX

1.   A system for displaying promotions on a viewing device comprising:

a display which is viewable by a viewer using the viewing device; and

a network device coupled to the viewing device, the network device configured

to:

(a) receive a promotion and a transmission schedule wherein the

transmission schedule contains control data that specifies a condition for

activating the promotion for display in the display and the transmission schedule

is received as a message which is individually addressed to the network device,

and

(b) in response to the condition occurring, activate the promotion for

display in the display.

2.   The system of claim 1, wherein the promotion is stored locally on the network device.

3.   The system of claim 1, wherein the promotion is stored in a network stream.

4.   The system of claim 3, wherein the promotion is viewed in a dedicated channel.

5.   The system of claim 3, wherein the promotion is viewed in a virtual channel.

6.   The system of claim 1, wherein the promotion is located using a local moniker.

7.   The system of claim 1, wherein the display is an electronic program guide.

8.   The system of claim 7, wherein the electronic program guide is a full-screen guide.

9.   The system of claim 7, wherein the electronic program guide is a partial-screen guide.

10.   The system of claim 7, wherein the promotion is displayed in the electronic program guide.

11.   The system of claim 1, wherein the promotion is displayed as a banner.

12.   The system of claim 1, wherein the promotion is displayed as a hot spot.

13. The system of claim 1, wherein the promotion is displayed as a full motion stream.

14. The system of claim 13, wherein the promotion is displayed on a personal video recorder.

15. The system of claim 1, wherein the promotion is selectable to facilitate interactions between the viewer and the promotion.

16. The system of claim 1, wherein the promotion is displayed over the entire viewable area of the display.

17. The system of claim 1, wherein the promotion is displayed over a portion of the viewable area of the display.

18. The system of claim 1, wherein multiple promotions are displayed, each promotion being independently selectable to facilitate interactions between the viewer and the selected promotion.

19. The system of claim 18, wherein the promotions are displayed over the entire viewable area of the display.

20. The system of claim 18, wherein the promotions are displayed over a portion of the viewable area of the display.

21. The system of claim 1, wherein the condition is triggered by the interaction of the viewer with the network device.

22. The system of claim 21, wherein when the viewer accepts the promotion, the channel to which the network device is tuned to changes.

23. The system of claim 1, wherein the condition is triggered by a program the viewer is watching.

24. The system of claim 1, wherein the condition is triggered by a program schedule.

25. The system of claim 1, wherein the condition is triggered by past promotion acceptance of the viewer.

26. The system of claim 1, wherein the condition is triggered by a location that the promotion appears within the display.

27. The system of claim 1, wherein the promotions are selected based on a viewership profile of the network device.

28. The system of claim 1, wherein the promotions are selected based on the demographics of the viewer.

29. The system of claim 1, wherein a channel to which the network device is tuned is a trigger that triggers the condition.

30. The system of claim 29, wherein the trigger is embedded in a broadcast stream.

31. (Canceled).

32. The system of claim 30, wherein the trigger is embedded in a Advanced Television Enhancement Forum (ATVEF) stream.

33. The system of claim 30, wherein the trigger is embedded in a Vertical Blanking Interval (VBI) stream.

34. The system of claim 29, wherein the trigger is embedded in an Moving Pictures Experts Group (MPEG) stream.

35. A method for displaying targeted promotions on a viewing device, the method comprising the steps of:

receiving a promotion and a transmission schedule wherein the transmission schedule contains control data that specifies a condition for activating the promotion for display on the viewing device and the transmission schedule is received as a message which is individually addressed to the viewing device; and

in response to encountering the condition, displaying the promotion on the viewing device.

36.   The method of claim 35, further comprising the step of storing the promotion locally on the network device.

37.   The method of claim 35, wherein the promotion is stored in a network stream.

38.   The method of claim 35, wherein the step of displaying includes displaying the promotion in a dedicated channel.

39.   The method of claim 35, wherein the step of displaying includes displaying the promotion in a virtual channel.

40.   The method of claim 35, wherein the promotion is identified as a local moniker.

41.   The method of claim 35, wherein the step of displaying includes displaying the promotion in an electronic program guide.

42.   The method of claim 41, wherein the step of displaying includes displaying the promotion in a full screen electronic program guide.

43.   The method of claim 41, wherein the step of displaying includes displaying in a partial screen electronic program guide.

44.   The method of claim 35, wherein the step of displaying includes displaying the promotion as a banner.

45.   The method of claim 35, wherein the step of displaying includes displaying the promotion as a hot spot.

46.   The method of claim 35, wherein the step of displaying includes displaying the promotion as a full motion stream.

47.   The method of claim 46, wherein the step of displaying includes displaying the promotion in a personal video recorder.

48.   The method of claim 35, wherein the step of displaying enables the viewer to interact with the promotion.

49.   The method of claim 35, wherein the step of displaying includes displaying the promotion over an entire viewable area of the display.

50.   The method of claim 35, wherein the step of displaying includes displaying the promotion over a portion of the viewable area of the display.

51.   The method of claim 35, wherein the step of displaying includes displaying multiple promotions so that the viewer is able to interact with each promotion.

52.   The method of claim 51, wherein the step of displaying includes displaying the promotions over the entire viewable area of the display.

53.   The method of claim 51, wherein the step of displaying includes displaying the promotions over a portion of the viewable area of the display.

54.   The method of claim 35, wherein the condition is based on the interaction of a viewer with the network device.

55.   The method of claim 54, further comprising the step of changing away from a channel the network device is tuned when the viewer accepts the promotion.

56.   The method of claim 35, wherein the condition is based on a program the viewer is watching.

57.   The method of claim 35, wherein the condition is based on a program schedule.

58.   The method of claim 35, wherein the condition is based on past promotion acceptance of a viewer.

59.   The method of claim 35, wherein the condition is triggered by a location that the promotion appears within the display.

60.   The method of claim 35, wherein the condition is based on a viewership profile of the network device.

61. The method of claim 35, wherein the condition is based on the demographics of the viewer.

62. The method of claim 35, wherein the condition is triggered by a channel to which the network device is tuned.

63. The method of claim 62, wherein the condition is triggered by a trigger that is embedded in a broadcast stream.

64. (Canceled).

65. The method of claim 63, wherein the condition is triggered by a trigger that is embedded in a Advanced Television Enhancement Forum (ATVEF) stream.

66. The method of claim 63, wherein the condition is triggered by a trigger that is embedded in a Vertical Blanking Interval (VBI) stream.

67. The method of claim 62, wherein the condition is triggered by a trigger that is embedded in an Moving Pictures Experts Group (MPEG) stream.

68. The system of claim 1, wherein the transmission schedule is customized for the network device and specifies when and how the network device is to receive the promotion.

69. The system of claim 1, wherein the transmission schedule is formatted as a Transmission Control Protocol (TCP) message or a User Datagram Protocol (UDP) message.

70. The system of claim 1, wherein the promotion is received as a broadcast message which is separate from the transmission schedule.

71. The method of claim 35, wherein the transmission schedule is customized for the viewing device and specifies when and how the viewing device is to receive the promotion.

multiplexer/encoder (215) to integrate. Because the broadcast server (260) sends no other information besides the ATVEF trigger, there is no notion in Sahota of the multiplexer/encoder (215) receiving any information at all regarding a further condition.

Appellant thus respectfully submits that Alexander, Sahota, and Eldering taken either singly or in combination fail to teach, suggest, or otherwise make obvious at least two of the elements recited in Appellant's claims 1-30, 32-63, and 65-67. Therefore, the rejection of these claims under 35 U.S.C. § 103 is *prima facie* deficient, and should be reversed.

Respectfully submitted,

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VIII.   CLAIMS APPENDIX

1.   A system for displaying promotions on a viewing device comprising:

a display which is viewable by a viewer using the viewing device; and

a network device coupled to the viewing device, the network device configured to:

(a) receive a promotion and a transmission schedule wherein the transmission schedule contains control data that specifies a condition for activating the promotion for display in the display and the transmission schedule is received as a message which is individually addressed to the network device, and

(b) in response to the condition occurring, activate the promotion for display in the display.

2.   The system of claim 1, wherein the promotion is stored locally on the network device.

3.   The system of claim 1, wherein the promotion is stored in a network stream.

4.   The system of claim 3, wherein the promotion is viewed in a dedicated channel.

5.   The system of claim 3, wherein the promotion is viewed in a virtual channel.

6.   The system of claim 1, wherein the promotion is located using a local moniker.

7.   The system of claim 1, wherein the display is an electronic program guide.

8.   The system of claim 7, wherein the electronic program guide is a full-screen guide.

9.   The system of claim 7, wherein the electronic program guide is a partial-screen guide.

10.   The system of claim 7, wherein the promotion is displayed in the electronic program guide.

11.   The system of claim 1, wherein the promotion is displayed as a banner.

12.   The system of claim 1, wherein the promotion is displayed as a hot spot.

13. The system of claim 1, wherein the promotion is displayed as a full motion stream.

14. The system of claim 13, wherein the promotion is displayed on a personal video recorder.

15. The system of claim 1, wherein the promotion is selectable to facilitate interactions between the viewer and the promotion.

16. The system of claim 1, wherein the promotion is displayed over the entire viewable area of the display.

17. The system of claim 1, wherein the promotion is displayed over a portion of the viewable area of the display.

18. The system of claim 1, wherein multiple promotions are displayed, each promotion being independently selectable to facilitate interactions between the viewer and the selected promotion.

19. The system of claim 18, wherein the promotions are displayed over the entire viewable area of the display.

20. The system of claim 18, wherein the promotions are displayed over a portion of the viewable area of the display.

21. The system of claim 1, wherein the condition is triggered by the interaction of the viewer with the network device.

22. The system of claim 21, wherein when the viewer accepts the promotion, the channel to which the network device is tuned to changes.

23. The system of claim 1, wherein the condition is triggered by a program the viewer is watching.

24. The system of claim 1, wherein the condition is triggered by a program schedule.

25. The system of claim 1, wherein the condition is triggered by past promotion acceptance of the viewer.

26.   The system of claim 1, wherein the condition is triggered by a location that the promotion appears within the display.

27.   The system of claim 1, wherein the promotions are selected based on a viewership profile of the network device.

28.   The system of claim 1, wherein the promotions are selected based on the demographics of the viewer.

29.   The system of claim 1, wherein a channel to which the network device is tuned is a trigger that triggers the condition.

30.   The system of claim 29, wherein the trigger is embedded in a broadcast stream.

31.   (Canceled).

32.   The system of claim 30, wherein the trigger is embedded in a Advanced Television Enhancement Forum (ATVEF) stream.

33.   The system of claim 30, wherein the trigger is embedded in a Vertical Blanking Interval (VBI) stream.

34.   The system of claim 29, wherein the trigger is embedded in an Moving Pictures Experts Group (MPEG) stream.

35.   A method for displaying targeted promotions on a viewing device, the method comprising the steps of:

        receiving a promotion and a transmission schedule wherein the transmission schedule contains control data that specifies a condition for activating the promotion for display on the viewing device and the transmission schedule is received as a message which is individually addressed to the viewing device; and

        in response to encountering the condition, displaying the promotion on the viewing device.

36.   The method of claim 35, further comprising the step of storing the promotion locally on the network device.

37.   The method of claim 35, wherein the promotion is stored in a network stream.

38.   The method of claim 35, wherein the step of displaying includes displaying the promotion in a dedicated channel.

39.   The method of claim 35, wherein the step of displaying includes displaying the promotion in a virtual channel.

40.   The method of claim 35, wherein the promotion is identified as a local moniker.

41.   The method of claim 35, wherein the step of displaying includes displaying the promotion in an electronic program guide.

42.   The method of claim 41, wherein the step of displaying includes displaying the promotion in a full screen electronic program guide.

43.   The method of claim 41, wherein the step of displaying includes displaying in a partial screen electronic program guide.

44.   The method of claim 35, wherein the step of displaying includes displaying the promotion as a banner.

45.   The method of claim 35, wherein the step of displaying includes displaying the promotion as a hot spot.

46.   The method of claim 35, wherein the step of displaying includes displaying the promotion as a full motion stream.

47.   The method of claim 46, wherein the step of displaying includes displaying the promotion in a personal video recorder.

48.   The method of claim 35, wherein the step of displaying enables the viewer to interact with the promotion.

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49. The method of claim 35, wherein the step of displaying includes displaying the promotion over an entire viewable area of the display.

50. The method of claim 35, wherein the step of displaying includes displaying the promotion over a portion of the viewable area of the display.

51. The method of claim 35, wherein the step of displaying includes displaying multiple promotions so that the viewer is able to interact with each promotion.

52. The method of claim 51, wherein the step of displaying includes displaying the promotions over the entire viewable area of the display.

53. The method of claim 51, wherein the step of displaying includes displaying the promotions over a portion of the viewable area of the display.

54. The method of claim 35, wherein the condition is based on the interaction of a viewer with the network device.

55. The method of claim 54, further comprising the step of changing away from a channel the network device is tuned when the viewer accepts the promotion.

56. The method of claim 35, wherein the condition is based on a program the viewer is watching.

57. The method of claim 35, wherein the condition is based on a program schedule.

58. The method of claim 35, wherein the condition is based on past promotion acceptance of a viewer.

59. The method of claim 35, wherein the condition is triggered by a location that the promotion appears within the display.

60. The method of claim 35, wherein the condition is based on a viewership profile of the network device.

61.   The method of claim 35, wherein the condition is based on the demographics of the viewer.

62.   The method of claim 35, wherein the condition is triggered by a channel to which the network device is tuned.

63.   The method of claim 62, wherein the condition is triggered by a trigger that is embedded in a broadcast stream.

64.   (Canceled).

65.   The method of claim 63, wherein the condition is triggered by a trigger that is embedded in a Advanced Television Enhancement Forum (ATVEF) stream.

66.   The method of claim 63, wherein the condition is triggered by a trigger that is embedded in a Vertical Blanking Interval (VBI) stream.

67.   The method of claim 62, wherein the condition is triggered by a trigger that is embedded in an Moving Pictures Experts Group (MPEG) stream.

68.   The system of claim 1, wherein the transmission schedule is customized for the network device and specifies when and how the network device is to receive the promotion.

69.   The system of claim 1, wherein the transmission schedule is formatted as a Transmission Control Protocol (TCP) message or a User Datagram Protocol (UDP) message.

70.   The system of claim 1, wherein the promotion is received as a broadcast message which is separate from the transmission schedule.

71.   The method of claim 35, wherein the transmission schedule is customized for the viewing device and specifies when and how the viewing device is to receive the promotion.

IX.   EVIDENCE APPENDIX

1) RFC 966 Host Groups: A Multicast Extension to the Internet Protocol, S.E. Deering and D.R. Cheriton, December 1985, pages 1-3.

                                Host Groups:
            A Multicast Extension to the Internet Protocol

1. Status of this Memo

   This RFC defines a model of service for Internet multicasting and
   proposes an extension to the Internet Protocol (IP) to support such a
   multicast service. Discussion and suggestions for improvements are
   requested. Distribution of this memo is unlimited.

2. Acknowledgements

   This memo was adapted from a paper [7] presented at the Ninth Data
   Communications Symposium. This work was sponsored in part by the
   Defense Advanced Research Projects Agency under contract N00039-83-
   K-0431 and National Science Foundation Grant DCR-83-52048.

   The Internet task force on end-to-end protocols, headed by Bob
   Braden, has provided valuable input in the development of the host
   group model.

3. Introduction

   In this paper, we describe a model of multicast service we call host
   groups and propose this model as a way to support multicast in the
   DARPA Internet environment [14]. We argue that it is feasible to
   implement this facility as an extension of the existing "unicast" IP
   datagram model and mechanism.

   Multicast is the transmission of a datagram packet to a set of zero
   or more destination hosts in a network or internetwork, with a single
   address specifying the set of destination hosts. For example, hosts
   A, B, C and D may be associated with multicast address X. On
   transmission, a packet with destination address X is delivered with
   datagram reliability to hosts A, B, C and D.

   Multicast has two primary uses, namely distributed binding and
   multi-destination delivery. As a binding mechanism, multicast is a
   robust and often more efficient alternative to the use of name
   servers for finding a particular object or service when a particular
   host address is not known. For example, in a distributed file
   system, all the file servers may be associated with one well-known
   multicast address. To bind a file name to a particular server, a
   client sends a query packet containing the file name to the file
   server multicast address, for delivery to all the file servers. The

server that recognizes the file name then responds to the client,
allowing subsequent interaction directly with that server host. Even
when name servers are employed, multicast can be used as the first
step in the binding process, that is, finding a name server.

Multi-destination delivery is useful to several applications,
including:

- distributed, replicated databases [6,9].

- conferencing [11].

- distributed parallel computation, including distributed
  gaming [2].

Ideally, multicast transmission to a set of hosts is not more
complicated or expensive for the sender than transmission to a single
host. Similarly, multicast transmission should not be more expensive
for the networks and gateways than traversing the shortest path tree
that connects the sending host to the hosts identified by the
multicast address.

Multicast, transmission to a set of hosts, is properly distinguished
from broadcast, transmission to all hosts on a network or
internetwork. Broadcast is not a generally useful facility since
there are few reasons for communicating with all hosts.

A variety of local network applications and systems make use of
multicast. For instance, the V distributed system [8] uses
network-level multicast for implementing efficient operations on
groups of processes spanning multiple machines. Similar use is being
made for replicated databases [6] and other distributed applications
[4]. Providing multicast in the Internet environment would allow
porting such local network distributed applications to the Internet,
as well as making some existing Internet applications more robust and
portable (by, for example, removing "wired-in" lists of addresses,
such as gateway addresses).

At present, an Internet application logically requiring multicast
must send individually addressed packets to each recipient. There
are two problems with this approach. Firstly, requiring the sending
host to know the specific addresses of all the recipients defeats its
use as a binding mechanism. For example, a diskless workstation
needs on boot to determine the network address of a disk server and
it is undesirable to "wire in" specific network addresses. With a
multicast facility, the multicast address of the boot servers (or

name servers that hold the addresses of the boot servers) can be
well-known, allowing the workstation to transmit its initial queries
to this address.

Secondly, transmitting multiple copies of the same packet makes
inefficient use of network bandwidth, gateway resources and sender
resources. For instance, the same packet may repeatedly traverse the
same network links and pass through the same gateways. Furthermore,
the local network level cannot recognize multi-destination delivery
to take advantage of multicast facilities that the underlying network
technologies may provide. For example, local-area bus, ring, or
radio networks, as well as satellite-based wide-area networks, can
provide efficient multicast delivery directly. Besides using
excessive communication resources, the use of multiple transmissions
to effect multicast severely limits the amount of parallelism in
transmission and processing that can be achieved compared to an
integrated multicast facility.

The next section describes the host group model of multicast service.
Section 5 describes the extensions to IP to support the host group
model. Section 6 discusses the implementation of multicast within
the networks and gateways making up the Internet. Section 7 relates
this model to other proposals. Finally, we conclude with remarks on
our experimental prototype implementation of host groups and comments
on future directions for investigation.

4. The Host Group Model

The Internet architecture defines a name space of individual host
addresses. The host group model extends that name space to include
addresses of host groups. A host group is a set of zero or more
Internet hosts <1>.   When an IP packet is sent with a host group
address as its destination, it is delivered with "best effort"
datagram reliability to all members of that host group.

The sender need not be a member of the destination group. We refer
to such a group as open, in contrast to a closed group where only
members are allowed to send to the group. We chose to provide open
groups because they are more flexible and more consistent as an
extension of conventional unicast models (even though they may harder
to implement).

Dynamic management of group membership provides flexible binding of
Internet addresses to hosts. Hosts may join and leave groups over
time. A host may also belong to more than one group at a time.
Finally, a host may belong to no groups at times, during which that
host is unreachable within the Internet architecture. In fact, a

X.   RELATED PROCEEDINGS APPENDIX

NONE.